117. Diagnostic means containing an isolated LAV *env* or *env-lor* DNA that codes for a polypeptide which is immunoreactive with sera from a person infected with LAV.

118. Diagnostic means containing antibodies specific to LAV polypeptides or containing immunoreactive LAV polypeptides expressed by cells transformed with a recombinant vector containing LAV DNA.

119. Vaccine compositions containing any immunoreactive LAV polypeptide expressed by cells transformed with a recombinant vector containing LAV DNA wherein said polypeptide is immunoreactive with sera from a person infected with LAV.

120. Immunoreactive LAV polypeptide expressed by cells transformed with a recombinant vector containing LAV DNA wherein the polypeptide is immunoreactive with sera from the person infected with LAV, and wherein the polypeptide is encoded by a DNA sequence between a *Kpn*I restriction site at about nucleotide 6100 and a *Bgl*II restriction site at about nucleotide 9150 of λJ19 clone of LAV genome.

121. Diagnostic means containing an isolated LAV *env* or *env-lor* DNA that codes for a polypeptide which is immunoreactive with sera from a person infected with LAV, wherein the DNA has the sequence between a *Kpn*I restriction site at about nucleotide 6100 and a *Bgl*II restriction site at about nucleotide 9150 of λJ19 clone of LAV genome.

122. Diagnostic means containing antibodies specific to LAV polypeptides or containing immunoreactive LAV polypeptides expressed by cells transformed with a recombinant vector

containing LAV DNA, wherein the polypeptide is encoded by the DNA

sequence between a *Kpn*I restriction site at about nucleotide 6100

and a *Bgl*II restriction site at about nucleotide 9150 of λJ19

clone of LAV genome.

123. Vaccine compositions containing any immunoreactive LAV

polypeptide expressed by cells transformed with a recombinant

vector containing LAV DNA wherein said polypeptide is

immunoreactive with sera from a person infected with LAV, and

wherein the polypeptide is encoded by the DNA sequence between a

*Kpn*I restriction site at about nucleotide 6100 and a *Bgl*II

restriction site at about nucleotide 9150 of λJ19 clone of LAV

genome.

124. Immunoreactive LAV polypeptide expressed by cells

transformed with a recombinant vector containing LAV DNA wherein

the polypeptide is immunoreactive with sera from a person infected

with LAV, and wherein the polypeptide is encoded by a DNA sequence

between nucleotide 5670 and nucleotide 8132 of λJ19 clone of LAV

genome.

125. Diagnostic means containing an isolated LAV *env* or

env-lor DNA that codes for a polypeptide which is immunoreactive

with sera from a person infected with LAV, wherein the DNA has a

sequence between nucleotide 5670 and nucleotide 8132 of λJ19

clone of LAV genome.

126. Diagnostic means containing antibodies specific to LAV

polypeptides or containing immunoreactive LAV polypeptides

expressed by cells transformed with a recombinant vector

containing LAV DNA, wherein the polypeptide is encoded by a DNA

sequence between nucleotide 5670 and nucleotide 8132 of λJ19
clone of LAV genome.

127. Vaccine compositions containing any immunoreactive LAV
polypeptide expressed by cells transformed with a recombinant
vector containing LAV DNA wherein said polypeptide is
immunoreactive with sera from a person infected with LAV, and
wherein the polypeptide is encoded by a DNA sequence between
nucleotide 5670 and nucleotide 8132 of λJ19 clone of LAV genome.

128. Immunoreactive LAV polypeptide expressed by cells
transformed with a recombinant vector containing LAV DNA wherein
the polypeptide is immunoreactive with sera from a person infected
with LAV, and wherein said polypeptide is encoded by DNA having
the following sequence:

```
          5670        5680        5690        5700
            A  AAGAGCAGAA  GACAGTGGCA  ATGAGAGTGA

  5710        5720        5730        5740        5750        5760
AGGAGAAATA  TCAGCACTTG  TGGAGATGGG  GGTGGAAATG  GGGCACCATG  CTCCTTGGGA

  5770        5780        5790        5800        5810        5820
TATTGATGAT  CTGTAGTGCT  ACAGAAAAAT  TGTGGGTCAC  AGTCTATTAT  GGGGTACCTG

  5830        5840        5850        5860        5870        5880
TGTGGAAGGA  AGCAACCACC  ACTCTATTTT  GTGCATCAGA  TGCTAAAGCA  TATGATACAG

  5890        5900        5910        5920        5930        5940
AGGTACATAA  TGTTTGGGCC  ACACATGCCT  GTGTACCCAC  AGACCCCAAC  CCACAAGAAG

  5950        5960        5970        5980        5990        6000
TAGTATTGGT  AAATGTGACA  GAAAATTTTA  ACATGTGGAA  AAATGACATG  GTAGAACAGA

  6010        6020        6030        6040        6050        6060
TGCATGAGGA  TATAATCAGT  TTATGGGATC  AAAGCCTAAA  GCCATGTGTA  AAATTAACCC

  6070        6080        6090        6100        6110        6120
CACTCTGTGT  TAGTTTAAAG  TGCACTGATT  TGGGGAATGC  TACTAATACC  AATAGTAGTA

  6130        6140        6150        6160        6170        6180
ATACCAATAG  TAGTAGCGGG  GAAATGATGA  TGGAGAAAGG  AGAGATAAAA  AACTGCTCTT
```

- 4 -

```
          6190       6200       6210       6220       6230       6240
     TCAATATCAG CACAAGCATA AGAGGTAAGG TGCAGAAAGA ATATGCATTT TTTTATAAAC

          6250       6260       6270       6280       6290       6300
     TTGATATAAT ACCAATAGAT AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

          6310       6320       6330       6340       6350       6360
     CAGTCATTAC ACAGGCCTGT CCAAAGGTAT CCTTTGAGCC AATTCCCATA CATTATTGTG

          6370       6380       6390       6400       6410       6420
     CCCCGGCTGG TTTTGCGATT CTAAAATGTA ATAATAAGAC GTTCAATGGA ACAGGACCAT

          6430       6440       6450       6460       6470       6480
     GTACAAATGT CAGCACAGTA CAATGTACAC ATGGAATTAG GCCAGTAGTA TCAACTCAAC

          6490       6500       6510       6520       6530       6540
     TGCTGTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTCACAG

          6550       6560       6570       6580       6590       6600
     ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

          6610       6620       6630       6640       6650       6660
     CCAACAACAA TACAAGAAAA AGTATCCGTA TCCAGAGGGG ACCAGGGAGA GCATTTGTTA

          6670       6680       6690       6700       6710       6720
     CAATAGGAAA AATAGGAAAT ATGAGACAAG CACATTGTAA CATTAGTAGA GCAAAATGGA

          6730       6740       6750       6760       6770       6780
     ATGCCACTTT AAAACAGATA GCTAGCAAAT TAAGAGAACA ATTTGGAAAT AATAAAACAA

          6790       6800       6810       6820       6830       6840
     TAATCTTTAA GCAATCCTCA GGAGGGGACC CAGAAATTGT AACGCACAGT TTTAATTGTG

          6850       6860       6870       6880       6890       6900
     GAGGGGAATT TTTCTACTGT AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA

          6910       6920       6930       6940       6950       6960
     CTTGGAGTAC TGAAGGGTCA AATAACACTG AAGGAAGTGA CACAATCACA CTCCCATGCA

          6970       6980       6990       7000       7010       7020
     GAATAAAACA ATTTATAAAC ATGTGGCAGG AAGTAGGAAA AGCAATGTAT GCCCCTCCCA

          7030       7040       7050       7060       7070       7080
     TCAGCGGACA AATTAGATGT TCATCAAATA TTACAGGGCT GCTATTAACA AGAGATGGTG

          7090       7100       7110       7120       7130       7140
     GTAATAACAA CAATGGGTCC GAGATCTTCA GACCTGGAGG AGGAGATATG AGGGACAATT

          7150       7160       7170       7180       7190       7200
     GGAGAAGTGA ATTATATAAA TATAAAGTAG TAAAAATTGA ACCATTAGGA GTAGCACCCA

          7210       7220       7230       7240       7250       7260
     CCAAGGCAAA GAGAAGAGTG GTGCAGAGAG AAAAAAGAGC AGTGGGAATA GGAGCTTTGT
```

```
        7270        7280        7290        7300        7310        7320
TCCTTGGGTT  CTTGGGAGCA  GCAGGAAGCA  CTATGGGCGC  ACGGTCAATG  ACGCTGACGG

        7330        7340        7350        7360        7370        7380
TACAGGCCAG  ACAATTATTG  TCTGGTATAG  TGCAGCAGCA  GAACAATTTG  CTGAGGGCTA

        7390        7400        7410        7420        7430        7440
TTGAGGCGCA  ACAGCATCTG  TTGCAACTCA  CAGTCTGGGG  CATCAAGCAG  CTCCAGGCAA

        7450        7460        7470        7480        7490        7500
GAATCCTGGC  TGTGGAAAGA  TACCTAAAGG  ATCAACAGCT  CCTGGGGATT  TGGGGTTGCT

        7510        7520        7530        7540        7550        7560
CTGGAAAACT  CATTTGCACC  ACTGCTGTGC  CTTGGAATGC  TAGTTGGAGT  AATAAATCTC

        7570        7580        7590        7600        7610        7620
TGGAACAGAT  TTGGAATAAC  ATGACCTGGA  TGGAGTGGGA  CAGAGAAATT  AACAATTACA

        7630        7640        7650        7660        7670        7680
CAAGCTTAAT  ACATTCCTTA  ATTGAAGAAT  CGAAAACCA   GCAAGAAAAG  AATGAACAAG

        7690        7700        7710        7720        7730        7740
AATTATTGGA  ATTAGATAAA  TGGGCAAGTT  TGTGGAATTG  GTTTAACATA  ACAAATTGGC

        7750        7760        7770        7780        7790        7800
TGTGGTATAT  AAAAATATTC  ATAATGATAG  TAGGAGGCTT  GGTAGGTTTA  AGAATAGTTT

        7810        7820        7830        7840        7850        7860
TTGCTGTACT  TTCTATAGTG  AATAGAGTTA  GGCAGGGATA  TTCACCATTA  TCGTTTCAGA

        7870        7880        7890        7900        7910        7920
CCCACCTCCC  AACCCCGAGG  GGACCCGACA  GGCCCGAAGG  AATAGAAGAA  GAAGGTGGAG

        7930        7940        7950        7960        7970        7980
AGAGAGACAG  AGACAGATCC  ATTCGATTAG  TGAACGGATC  CTTAGCACTT  ATCTGGGACG

        7990        8000        8010        8020        8030        8040
ATCTGCGGAG  CCTTGTGCCT  CTTCAGCTAC  CACCGCTTGA  GAGACTTACT  CTTGATTGTA

        8050        8060        8070        8080        8090        8100
ACGAGGATTG  TGGAACTTCT  GGGACGCAGG  GGGTGGGAAG  CCCTCAAATA  TTGGTGGAAT

        8110        8120        8130
CTCCTACAGT  ATTGGAGTCA  GGAACTAAAG  AA.
```

129. Diagnostic means containing an isolated LAV *env* or
env-lor DNA that codes for a polypeptide which is immunoreactive
with sera from a person infected with LAV, wherein said DNA has
the following sequence:

- 6 -

```
                           5670        5680        5690        5700
                         A AAGAGCAGAA GACAGTGGCA ATGAGAGTGA

      5710        5720        5730        5740        5750        5760
AGGAGAAATA TCAGCACTTG TGGAGATGGG GGTGGAAATG GGGCACCATG CTCCTTGGGA

      5770        5780        5790        5800        5810        5820
TATTGATGAT CTGTAGTGCT ACAGAAAAAT TGTGGGTCAC AGTCTATTAT GGGGTACCTG

      5830        5840        5850        5860        5870        5880
TGTGGAAGGA AGCAACCACC ACTCTATTTT GTGCATCAGA TGCTAAAGCA TATGATACAG

      5890        5900        5910        5920        5930        5940
AGGTACATAA TGTTTGGGCC ACACATGCCT GTGTACCCAC AGACCCCAAC CCACAAGAAG

      5950        5960        5970        5980        5990        6000
TAGTATTGGT AAATGTGACA GAAAATTTTA ACATGTGGAA AAATGACATG GTAGAACAGA

      6010        6020        6030        6040        6050        6060
TGCATGAGGA TATAATCAGT TTATGGGATC AAAGCCTAAA GCCATGTGTA AAATTAACCC

      6070        6080        6090        6100        6110        6120
CACTCTGTGT TAGTTTAAAG TGCACTGATT TGGGGAATGC TACTAATACC AATAGTAGTA

      6130        6140        6150        6160        6170        6180
ATACCAATAG TAGTAGCGGG GAAATGATGA TGGAGAAAGG AGAGATAAAA AACTGCTCTT

      6190        6200        6210        6220        6230        6240
TCAATATCAG CACAAGCATA AGAGGTAAGG TGCAGAAAGA ATATGCATTT TTTTATAAAC

      6250        6260        6270        6280        6290        6300
TTGATATAAT ACCAATAGAT AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

      6310        6320        6330        6340        6350        6360
CAGTCATTAC ACAGGCCTGT CCAAAGGTAT CCTTTGAGCC AATTCCCATA CATTATTGTG

      6370        6380        6390        6400        6410        6420
CCCCGGCTGG TTTTGCGATT CTAAAATGTA ATAATAAGAC GTTCAATGGA ACAGGACCAT

      6430        6440        6450        6460        6470        6480
GTACAAATGT CAGCACAGTA CAATGTACAC ATGGAATTAG GCCAGTAGTA TCAACTCAAC

      6490        6500        6510        6520        6530        6540
TGCTGTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTCACAG

      6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

      6610        6620        6630        6640        6650        6660
CCAACAACAA TACAAGAAAA AGTATCCGTA TCCAGAGGGG ACCAGGGAGA GCATTTGTTA

      6670        6680        6690        6700        6710        6720
CAATAGGAAA AATAGGAAAT ATGAGACAAG CACATTGTAA CATTAGTAGA GCAAAATGGA
```

```
      6730        6740        6750        6760        6770        6780
ATGCCACTTT AAAACAGATA GCTAGCAAAT TAAGAGAACA ATTTGGAAAT AATAAAACAA

      6790        6800        6810        6820        6830        6840
TAATCTTTAA GCAATCCTCA GGAGGGGACC CAGAAATTGT AACGCACAGT TTTAATTGTG

      6850        6860        6870        6880        6890        6900
GAGGGGAATT TTTCTACTGT AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA

      6910        6920        6930        6940        6950        6960
CTTGGAGTAC TGAAGGGTCA AATAACACTG AAGGAAGTGA CACAATCACA CTCCCATGCA

      6970        6980        6990        7000        7010        7020
GAATAAAACA ATTTATAAAC ATGTGGCAGG AAGTAGGAAA AGCAATGTAT GCCCCTCCCA

      7030        7040        7050        7060        7070        7080
TCAGCGGACA AATTAGATGT TCATCAAATA TTACAGGGCT GCTATTAACA AGAGATGGTG

      7090        7100        7110        7120        7130        7140
GTAATAACAA CAATGGGTCC GAGATCTTCA GACCTGGAGG AGGAGATATG AGGGACAATT

      7150        7160        7170        7180        7190        7200
GGAGAAGTGA ATTATATAAA TATAAAGTAG TAAAAATTGA ACCATTAGGA GTAGCACCCA

      7210        7220        7230        7240        7250        7260
CCAAGGCAAA GAGAAGAGTG GTGCAGAGAG AAAAAAGAGC AGTGGGAATA GGAGCTTTGT

      7270        7280        7290        7300        7310        7320
TCCTTGGGTT CTTGGGAGCA GCAGGAAGCA CTATGGGCGC ACGGTCAATG ACGCTGACGG

      7330        7340        7350        7360        7370        7380
TACAGGCCAG ACAATTATTG TCTGGTATAG TGCAGCAGCA GAACAATTTG CTGAGGGCTA

      7390        7400        7410        7420        7430        7440
TTGAGGCGCA ACAGCATCTG TTGCAACTCA CAGTCTGGGG CATCAAGCAG CTCCAGGCAA

      7450        7460        7470        7480        7490        7500
GAATCCTGGC TGTGGAAAGA TACCTAAAGG ATCAACAGCT CCTGGGGATT TGGGGTTGCT

      7510        7520        7530        7540        7550        7560
CTGGAAAACT CATTTGCACC ACTGCTGTGC CTTGGAATGC TAGTTGGAGT AATAAATCTC

      7570        7580        7590        7600        7610        7620
TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA

      7630        7640        7650        7660        7670        7680
CAAGCTTAAT ACATTCCTTA ATTGAAGAAT CGAAAACCA  GCAAGAAAAG AATGAACAAG

      7690        7700        7710        7720        7730        7740
AATTATTGGA ATTAGATAAA TGGGCAAGTT TGTGGAATTG GTTTAACATA ACAAATTGGC

      7750        7760        7770        7780        7790        7800
TGTGGTATAT AAAAAATATTC ATAATGATAG TAGGAGGCTT GGTAGGTTTA AGAATAGTTT
```

```
        7810        7820        7830        7840        7850        7860
TTGCTGTACT TTCTATAGTG AATAGAGTTA GGCAGGGATA TTCACCATTA TCGTTTCAGA

        7870        7880        7890        7900        7910        7920
CCCACCTCCC AACCCCGAGG GGACCCGACA GGCCCGAAGG AATAGAAGAA GAAGGTGGAG

        7930        7940        7950        7960        7970        7980
AGAGAGACAG AGACAGATCC ATTCGATTAG TGAACGGATC CTTAGCACTT ATCTGGGACG

        7990        8000        8010        8020        8030        8040
ATCTGCGGAG CCTTGTGCCT CTTCAGCTAC CACCGCTTGA GAGACTTACT CTTGATTGTA

        8050        8060        8070        8080        8090        8100
ACGAGGATTG TGGAACTTCT GGGACGCAGG GGGTGGGAAG CCCTCAAATA TTGGTGGAAT

        8110        8120        8130
CTCCTACAGT ATTGGAGTCA GGAACTAAAG AA.
```

130. Diagnostic means containing antibodies specific to LAV

polypeptides or containing immunoreactive LAV polypeptides

expressed by cells transformed with a recombinant vector

containing LAV DNA, wherein said polypeptide is encoded by DNA

having the following sequence:

```
                                   5670        5680        5690        5700
                                 A AAGAGCAGAA GACAGTGGCA ATGAGAGTGA

        5710        5720        5730        5740        5750        5760
AGGAGAAATA TCAGCACTTG TGGAGATGGG GGTGGAAATG GGGCACCATG CTCCTTGGGA

        5770        5780        5790        5800        5810        5820
TATTGATGAT CTGTAGTGCT ACAGAAAAAT TGTGGGTCAC AGTCTATTAT GGGGTACCTG

        5830        5840        5850        5860        5870        5880
TGTGGAAGGA AGCAACCACC ACTCTATTTT GTGCATCAGA TGCTAAAGCA TATGATACAG

        5890        5900        5910        5920        5930        5940
AGGTACATAA TGTTTGGGCC ACACATGCCT GTGTACCCAC AGACCCCAAC CCACAAGAAG

        5950        5960        5970        5980        5990        6000
TAGTATTGGT AAATGTGACA GAAAATTTTA ACATGTGGAA AAATGACATG GTAGAACAGA

        6010        6020        6030        6040        6050        6060
TGCATGAGGA TATAATCAGT TTATGGGATC AAAGCCTAAA GCCATGTGTA AAATTAACCC

        6070        6080        6090        6100        6110        6120
CACTCTGTGT TAGTTTAAAG TGCACTGATT TGGGGAATGC TACTAATACC AATAGTAGTA
```

- 9 -

```
          6130        6140        6150        6160        6170        6180
ATACCAATAG TAGTAGCGGG GAAATGATGA TGGAGAAAGG AGAGATAAAA AACTGCTCTT

          6190        6200        6210        6220        6230        6240
TCAATATCAG CACAAGCATA AGAGGTAAGG TGCAGAAAGA ATATGCATTT TTTTATAAAC

          6250        6260        6270        6280        6290        6300
TTGATATAAT ACCAATAGAT AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

          6310        6320        6330        6340        6350        6360
CAGTCATTAC ACAGGCCTGT CCAAAGGTAT CCTTTGAGCC AATTCCCATA CATTATTGTG

          6370        6380        6390        6400        6410        6420
CCCCGGCTGG TTTTGCGATT CTAAAATGTA ATAATAAGAC GTTCAATGGA ACAGGACCAT

          6430        6440        6450        6460        6470        6480
GTACAAATGT CAGCACAGTA CAATGTACAC ATGGAATTAG GCCAGTAGTA TCAACTCAAC

          6490        6500        6510        6520        6530        6540
TGCTGTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTCACAG

          6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

          6610        6620        6630        6640        6650        6660
CCAACAACAA TACAAGAAAA AGTATCCGTA TCCAGAGGGG ACCAGGGAGA GCATTTGTTA

          6670        6680        6690        6700        6710        6720
CAATAGGAAA AATAGGAAAT ATGAGACAAG CACATTGTAA CATTAGTAGA GCAAAATGGA

          6730        6740        6750        6760        6770        6780
ATGCCACTTT AAAACAGATA GCTAGCAAAT TAAGAGAACA ATTTGGAAAT AATAAAACAA

          6790        6800        6810        6820        6830        6840
TAATCTTTAA GCAATCCTCA GGAGGGGACC CAGAAATTGT AACGCACAGT TTTAATTGTG

          6850        6860        6870        6880        6890        6900
GAGGGGAATT TTTCTACTGT AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA

          6910        6920        6930        6940        6950        6960
CTTGGAGTAC TGAAGGGTCA AATAACACTG AAGGAAGTGA CACAATCACA CTCCCATGCA

          6970        6980        6990        7000        7010        7020
GAATAAAACA ATTTATAAAC ATGTGGCAGG AAGTAGGAAA AGCAATGTAT GCCCCTCCCA

          7030        7040        7050        7060        7070        7080
TCAGCGGACA AATTAGATGT TCATCAAATA TTACAGGGCT GCTATTAACA AGAGATGGTG

          7090        7100        7110        7120        7130        7140
GTAATAACAA CAATGGGTCC GAGATCTTCA GACCTGGAGG AGGAGATATG AGGGACAATT

          7150        7160        7170        7180        7190        7200
GGAGAAGTGA ATTATATAAA TATAAAGTAG TAAAAATTGA ACCATTAGGA GTAGCACCCA
```

```
        7210       7220       7230       7240       7250       7260
CCAAGGCAAA GAGAAGAGTG GTGCAGAGAG AAAAAAGAGC AGTGGGAATA GGAGCTTTGT

        7270       7280       7290       7300       7310       7320
TCCTTGGGTT CTTGGGAGCA GCAGGAAGCA CTATGGGCGC ACGGTCAATG ACGCTGACGG

        7330       7340       7350       7360       7370       7380
TACAGGCCAG ACAATTATTG TCTGGTATAG TGCAGCAGCA GAACAATTTG CTGAGGGCTA

        7390       7400       7410       7420       7430       7440
TTGAGGCGCA ACAGCATCTG TTGCAACTCA CAGTCTGGGG CATCAAGCAG CTCCAGGCAA

        7450       7460       7470       7480       7490       7500
GAATCCTGGC TGTGGAAAGA TACCTAAAGG ATCAACAGCT CCTGGGGATT TGGGGTTGCT

        7510       7520       7530       7540       7550       7560
CTGGAAAACT CATTTGCACC ACTGCTGTGC CTTGGAATGC TAGTTGGAGT AATAAATCTC

        7570       7580       7590       7600       7610       7620
TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA

        7630       7640       7650       7660       7670       7680
CAAGCTTAAT ACATTCCTTA ATTGAAGAAT CGAAAACCA  GCAAGAAAAG AATGAACAAG

        7690       7700       7710       7720       7730       7740
AATTATTGGA ATTAGATAAA TGGGCAAGTT TGTGGAATTG GTTTAACATA ACAAATTGGC

        7750       7760       7770       7780       7790       7800
TGTGGTATAT AAAAATATTC ATAATGATAG TAGGAGGCTT GGTAGGTTTA AGAATAGTTT

        7810       7820       7830       7840       7850       7860
TTGCTGTACT TTCTATAGTG AATAGAGTTA GGCAGGGATA TTCACCATTA TCGTTTCAGA

        7870       7880       7890       7900       7910       7920
CCCACCTCCC AACCCCGAGG GGACCCGACA GGCCCGAAGG AATAGAAGAA GAAGGTGGAG

        7930       7940       7950       7960       7970       7980
AGAGAGACAG AGACAGATCC ATTCGATTAG TGAACGGATC CTTAGCACTT ATCTGGGACG

        7990       8000       8010       8020       8030       8040
ATCTGCGGAG CCTTGTGCCT CTTCAGCTAC CACCGCTTGA GAGACTTACT CTTGATTGTA

        8050       8060       8070       8080       8090       8100
ACGAGGATTG TGGAACTTCT GGGACGCAGG GGGTGGGAAG CCCTCAAATA TTGGTGGAAT

        8110       8120       8130
CTCCTACAGT ATTGGAGTCA GGAACTAAAG AA.
```

131. Vaccine compositions containing any immunoreactive LAV

polypeptide expressed by cells transformed with a recombinant

vector containing LAV DNA wherein said polypeptide is

- 11 -

immunoreactive with sera from a person infected with LAV, and
wherein said polypeptide is encoded by DNA having the following
sequence:

```
                           5670        5680        5690        5700
                              A  AAGAGCAGAA  GACAGTGGCA  ATGAGAGTGA

      5710        5720        5730        5740        5750        5760
AGGAGAAATA  TCAGCACTTG  TGGAGATGGG  GGTGGAAATG  GGGCACCATG  CTCCTTGGGA

      5770        5780        5790        5800        5810        5820
TATTGATGAT  CTGTAGTGCT  ACAGAAAAAT  TGTGGGTCAC  AGTCTATTAT  GGGGTACCTG

      5830        5840        5850        5860        5870        5880
TGTGGAAGGA  AGCAACCACC  ACTCTATTTT  GTGCATCAGA  TGCTAAAGCA  TATGATACAG

      5890        5900        5910        5920        5930        5940
AGGTACATAA  TGTTTGGGCC  ACACATGCCT  GTGTACCCAC  AGACCCCAAC  CCACAAGAAG

      5950        5960        5970        5980        5990        6000
TAGTATTGGT  AAATGTGACA  GAAAATTTTA  ACATGTGGAA  AAATGACATG  GTAGAACAGA

      6010        6020        6030        6040        6050        6060
TGCATGAGGA  TATAATCAGT  TTATGGGATC  AAAGCCTAAA  GCCATGTGTA  AAATTAACCC

      6070        6080        6090        6100        6110        6120
CACTCTGTGT  TAGTTTAAAG  TGCACTGATT  TGGGGAATGC  TACTAATACC  AATAGTAGTA

      6130        6140        6150        6160        6170        6180
ATACCAATAG  TAGTAGCGGG  GAAATGATGA  TGGAGAAAGG  AGAGATAAAA  AACTGCTCTT

      6190        6200        6210        6220        6230        6240
TCAATATCAG  CACAAGCATA  AGAGGTAAGG  TGCAGAAAGA  ATATGCATTT  TTTTATAAAC

      6250        6260        6270        6280        6290        6300
TTGATATAAT  ACCAATAGAT  AATGATACTA  CCAGCTATAC  GTTGACAAGT  TGTAACACCT

      6310        6320        6330        6340        6350        6360
CAGTCATTAC  ACAGGCCTGT  CCAAAGGTAT  CCTTTGAGCC  AATTCCCATA  CATTATTGTG

      6370        6380        6390        6400        6410        6420
CCCCGGCTGG  TTTTGCGATT  CTAAAATGTA  ATAATAAGAC  GTTCAATGGA  ACAGGACCAT

      6430        6440        6450        6460        6470        6480
GTACAAATGT  CAGCACAGTA  CAATGTACAC  ATGGAATTAG  GCCAGTAGTA  TCAACTCAAC

      6490        6500        6510        6520        6530        6540
TGCTGTTGAA  TGGCAGTCTA  GCAGAAGAAG  AGGTAGTAAT  TAGATCTGCC  AATTTCACAG

      6550        6560        6570        6580        6590        6600
ACAATGCTAA  AACCATAATA  GTACAGCTGA  ACCAATCTGT  AGAAATTAAT  TGTACAAGAC
```

```
     6610       6620       6630       6640       6650       6660
CCAACAACAA TACAAGAAAA AGTATCCGTA TCCAGAGGGG ACCAGGGAGA GCATTTGTTA

     6670       6680       6690       6700       6710       6720
CAATAGGAAA AATAGGAAAT ATGAGACAAG CACATTGTAA CATTAGTAGA GCAAAATGGA

     6730       6740       6750       6760       6770       6780
ATGCCACTTT AAAACAGATA GCTAGCAAAT TAAGAGAACA ATTTGGAAAT AATAAAACAA

     6790       6800       6810       6820       6830       6840
TAATCTTTAA GCAATCCTCA GGAGGGGACC CAGAAATTGT AACGCACAGT TTTAATTGTG

     6850       6860       6870       6880       6890       6900
GAGGGGAATT TTTCTACTGT AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA

     6910       6920       6930       6940       6950       6960
CTTGGAGTAC TGAAGGGTCA AATAACACTG AAGGAAGTGA CACAATCACA CTCCCATGCA

     6970       6980       6990       7000       7010       7020
GAATAAAACA ATTTATAAAC ATGTGGCAGG AAGTAGGAAA AGCAATGTAT GCCCCTCCCA

     7030       7040       7050       7060       7070       7080
TCAGCGGACA AATTAGATGT TCATCAAATA TTACAGGGCT GCTATTAACA AGAGATGGTG

     7090       7100       7110       7120       7130       7140
GTAATAACAA CAATGGGTCC GAGATCTTCA GACCTGGAGG AGGAGATATG AGGGACAATT

     7150       7160       7170       7180       7190       7200
GGAGAAGTGA ATTATATAAA TATAAAGTAG TAAAAATTGA ACCATTAGGA GTAGCACCCA

     7210       7220       7230       7240       7250       7260
CCAAGGCAAA GAGAAGAGTG GTGCAGAGAG AAAAAAGAGC AGTGGGAATA GGAGCTTTGT

     7270       7280       7290       7300       7310       7320
TCCTTGGGTT CTTGGGAGCA GCAGGAAGCA CTATGGGCGC ACGGTCAATG ACGCTGACGG

     7330       7340       7350       7360       7370       7380
TACAGGCCAG ACAATTATTG TCTGGTATAG TGCAGCAGCA GAACAATTTG CTGAGGGCTA

     7390       7400       7410       7420       7430       7440
TTGAGGCGCA ACAGCATCTG TTGCAACTCA CAGTCTGGGG CATCAAGCAG CTCCAGGCAA

     7450       7460       7470       7480       7490       7500
GAATCCTGGC TGTGGAAAGA TACCTAAAGG ATCAACAGCT CCTGGGGATT TGGGGTTGCT

     7510       7520       7530       7540       7550       7560
CTGGAAAACT CATTTGCACC ACTGCTGTGC CTTGGAATGC TAGTTGGAGT AATAAATCTC

     7570       7580       7590       7600       7610       7620
TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA

     7630       7640       7650       7660       7670       7680
CAAGCTTAAT ACATTCCTTA ATTGAAGAAT CGAAAACCA  GCAAGAAAAG AATGAACAAG
```

- 13 -